

Datasheet

LuxaLight Industrial LED Fixture Transparent cover White Full Spectrum 5700K 24.2x16mm (24 Volt, 2835, IP64)

LF-24-5700-24.2X16-TC

Version: 2025-08-26.3

Product description

The **LuxaLight Industrial LED Fixture Transparent PMMA Cover White Full Spectrum 5700 K (24.2 × 16 mm)** delivers clean, cool-white illumination with excellent color fidelity. Its **modular design** (220–3000 mm), transparent **PMMA cover**, and integration with the **MaNima Pollux Industrial System** make it ideal for food inspection, hyperspectral imaging, line-scan systems, and precision machine vision.

Key Specifications

Property	Value / Description
Color Temperature	5700–5900 K (measured CCT: ~5833 K)
CRI / Binning	CRI ≥ 95; 3-step SDCM bin
Spectrum Highlights	Blue peak at ~454 nm; broad full-spectrum cool white
Optical Output	PPFD ~2991 µmol/m²/s @ 5 cm; Illuminance ~191 400 lx @ 5 cm; Irradiance ~682 W/m² @ 5 cm
Cover	Transparent PMMA – high optical transmission + mechanical protection
PCB Material / Protection	Aluminum PCB with silicone coating
Environmental Protection	IP64 – dust-tight and splash-resistant
Thermal Monitoring	Integrated NTC sensor controllable via MaNima Pollux
Design	Modular & scalable, 220–3000 mm
Dimensions	24.2 × 16 mm (fixture profile)
Environment	Designed for heavy-duty industrial use (dust, vibration, moisture)

Applications

- **Food Inspection (Agro-Food)** – high-CRI cool white for true-color quality control
- **Hyperspectral Imaging** – uniform light source ideal for spectral cameras
- **Line-scan Systems** – consistent, glare-reduced illumination for conveyor imaging
- **Machine Vision** – precision lighting for defect detection and metrology
- **Cleanrooms & Laboratories** – neutral white lighting ideal for visual inspection tasks
- **R&D & Metrology** – stable spectrum for test benches and reference illumination

Benefits for Engineers

- **High Color Fidelity:** CRI ≥ 95 ensures accurate color detection and reliable imaging
- **Stable & Efficient:** Real-time thermal feedback via Pollux guarantees consistent output
- **Rugged Design:** Solid aluminum body with IP64 and PMMA protection for industrial reliability
- **Modular Scalability:** Customizes perfectly from 220 up to 3000 mm lengths
- **Seamless Integration:** Ready for automation through Pollux and compatible with PLC/SCADA systems

Integration with MaNima Pollux Industrial System

- Real-time thermal monitoring via NTC sensor
- Supports pulsing/strobing for reduced heat and boosted output
- Thermal protection against overload in continuous use
- Compatible with PLC/SCADA automation systems
- **Open API (UDP-based)** for custom system integration

Technical specifications

General		
Brand	LuxaLight	
Application	Food Inspection (Agro-Food) Hyper - spectral Imaging Line Scan Cameras Machine Vision	
LED type	2835	
Material	Aluminum	
Dimensions	220 × 24,2 × 16 mm	
Mounting	Surface mounted	
Warranty	5 years	
Cover type	PMMA transparent	
LEDs per piece	108.00	
Lifetime	70000 hours	
Lighting		
Color temperature	5700 ~ 5900 K	
CRI	≥ 95	
Luminous Flux	3720 lm	
BIN	3 SDCM	
Beam angle	120 °	
LB waarde	L80B50	
Measurement results		
CRI (Object size: 1 piece)	95	
CCT (Object size: 1 piece)	5833 K	
Illuminance (Lux) (Object size: 1 piece)		24V
	5cm	191400 lx
	10cm	77330 lx
	15cm	40220 lx
	20cm	24960 lx
	25cm	16510 lx
	30cm	12260 lx
Total PPFD umol/m2 (PAR 400-700nm) (Object size: 1 piece)		24V
	5cm	2991.04 umol/m2
	10cm	1212.87 umol/m2
	15cm	632.378 umol/m2
	20cm	393.149 umol/m2
	25cm	261.244 umol/m2
	30cm	193.688 umol/m2
Peak wavelength (Object size: 1 piece)	454 nm	

Peak irradiance

(Object size: 1 piece)

	24V
5cm	5.14373 W/sqm
10cm	2.15944 W/sqm
15cm	1.13656 W/sqm
20cm	0.714405 W/sqm
25cm	0.470971 W/sqm
30cm	0.349696 W/sqm

Total irradiance

(Object size: 1 piece)

	24V
5cm	682.3 W/sqm
10cm	276.9 W/sqm
15cm	144 W/sqm
20cm	89.42 W/sqm
25cm	59.4 W/sqm
30cm	43.98 W/sqm

- By combining Pulse Mode with Real-Time Monitoring, the efficiency of LED systems can be increased, resulting in higher output.
- We have the expertise and equipment to perform measurements tailored to the specific requirements of the application.

Electronics

Working voltage	24V
Current per piece	1.25 A / piece
Power consumption per piece	30.00 W / piece
PCB material	Aluminium

Pinout

Symbol	Function
V+	V+
GND	Ground
NTC	NTC sensor
NTC_GND	NTC ground

NTC parameters	Resistance: 5000 Ohm Beta value: 3950
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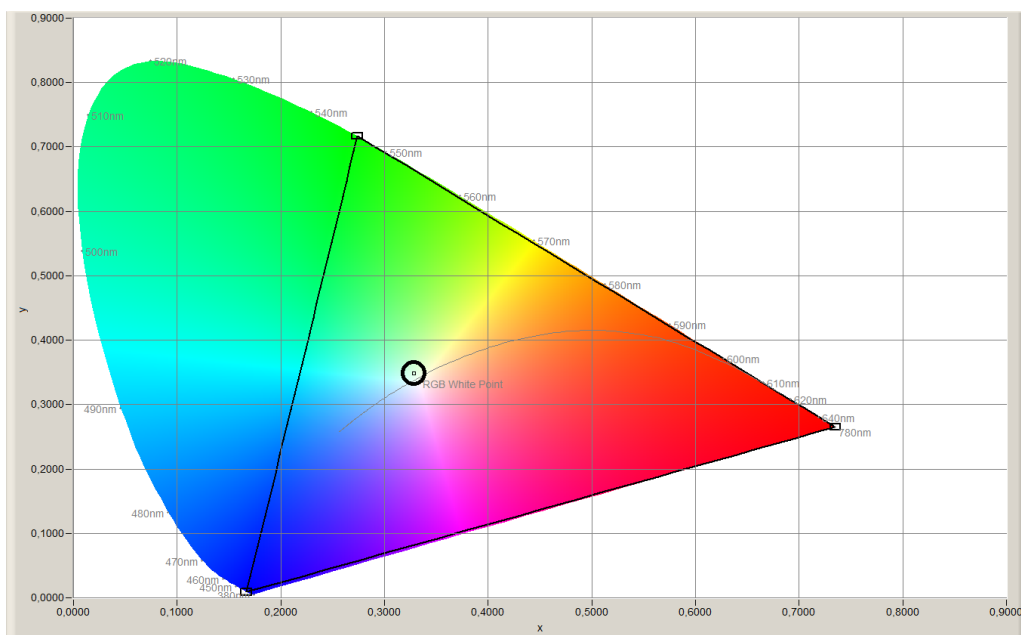
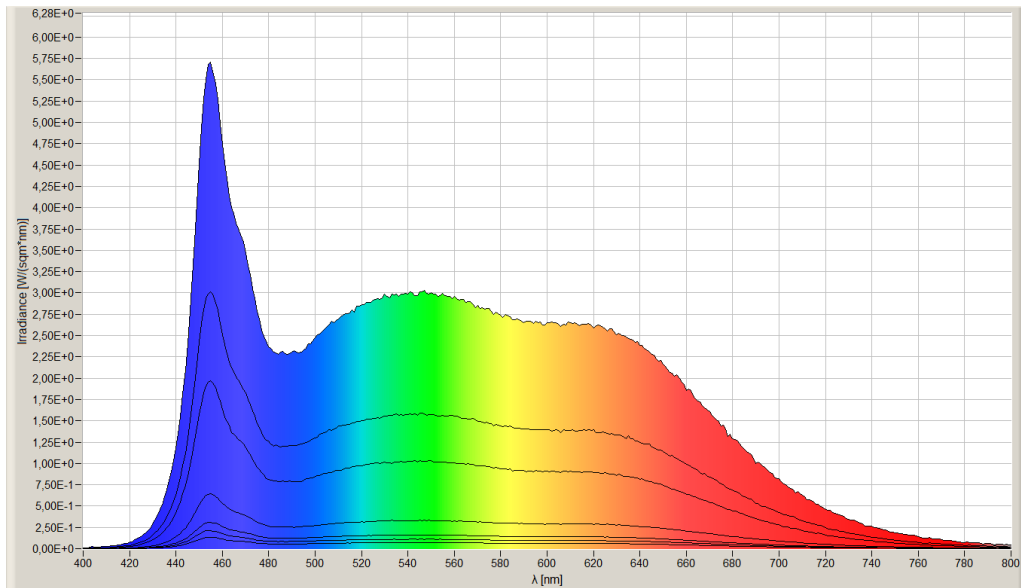
Environmental

Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

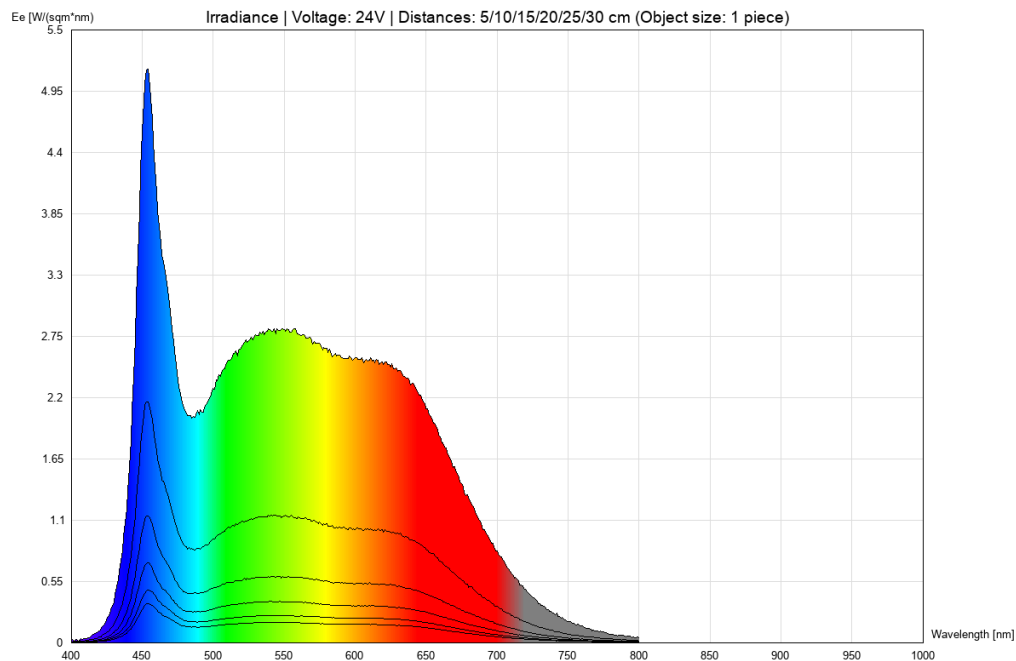
Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

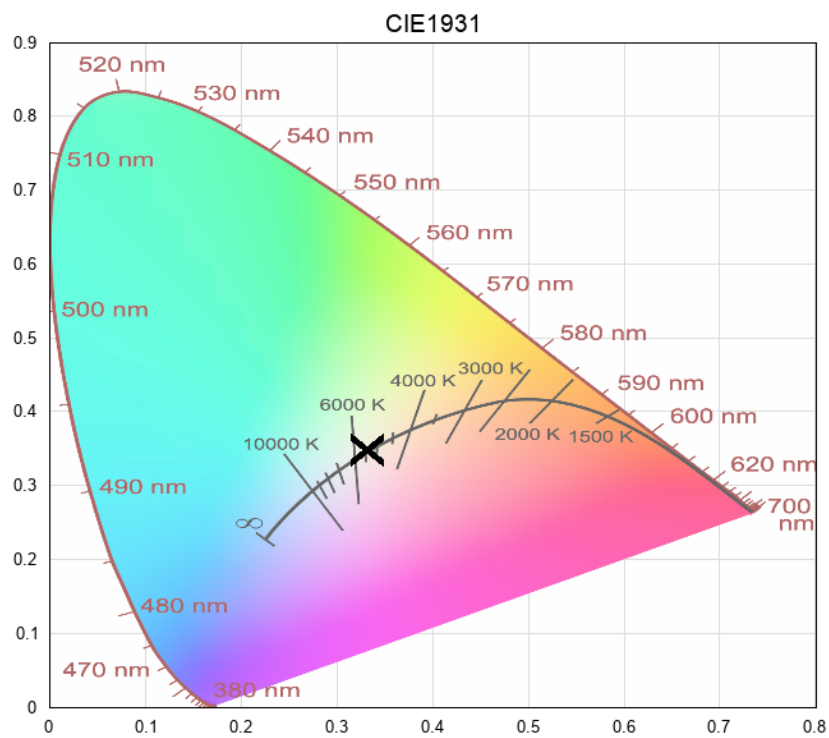
Measurement results



irradiance - full-spectrum (24V)



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